

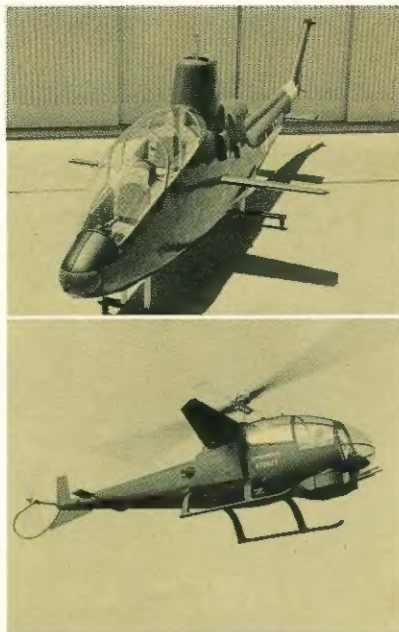
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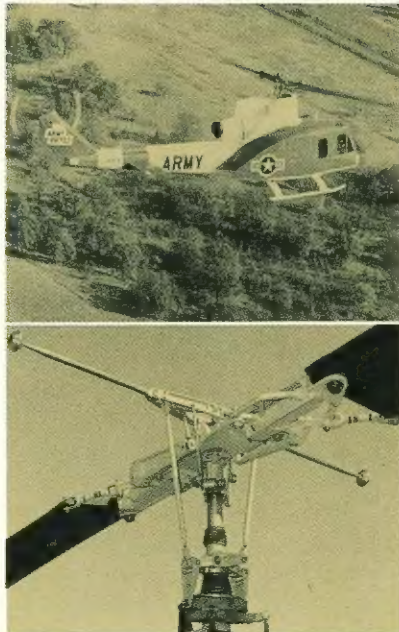
THE HUEYCOBRA





Ⓢ The HueyCobra is the latest version of the world-famed and combat proven Army Huey. Originally developed for the medical evacuation mission, one which it still performs with distinction, the Huey evolution has kept pace with military necessity. The UH-1B has become specialized as an armed escort in Viet Nam while the UH-1D has assumed a role as the prime infantry mover. But the UH-1B's utility fuselage coupled with the added drag of external armament limits its performance and effectiveness as an escort. Combat experience dictated the need for increased speed and maneuverability, greater range and endurance plus improved protection for helicopter and crew.

COMBAT EXPERIENCE & BELL R&D LED TO ... THE



Due to a foresighted and thorough research and development program, Bell was prepared to meet these needs. Under the Army's High Performance Helicopter Program, Bell developed the required high-speed rotor know-how. From this program, plus Bell's independent research, came the 540 "door-hinge" rotor which offers reduced vibration plus increased speed and maneuverability.

Coupling combat experience, rotor know-how and the Army's upgraded Lycoming T53-L-13 engine with flight tested concepts of a mission-designed fuselage and integrated armament, Bell developed the HueyCobra.

HUEY COBRA






MISSION...



...PROVIDE EFFECTIVE FIRE SUPPORT-FASTER, LONGER AND

 Like its celebrated predecessor, the UH-1B, the Cobra will fulfill a wide spectrum of fire support roles from visual reconnaissance to delivery of heavy fires during airmobile assaults. It will, however, discharge the armed helicopter mission in a far more effective manner, having been designed specifically for this function.

The Cobra provides exceptional speed and agility, increased range and endurance and considerably greater firepower insuring swift appropriate reaction to the tactical situation. Its ability to deliver a heavy ordnance load effectively and for a minimum cost makes the Cobra a most valuable addition to Army combat power.



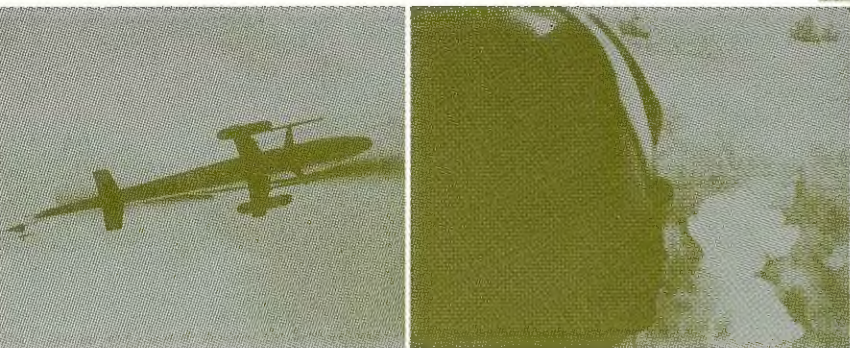
AIRMOBILE ESCORT AND SUPPORT

Primary Capability
Required:

Speed and maneuver advantage over column plus flexible fire power.

Cobra Characteristics:

50% speed advantage over UH-1D column • Able to engage threat enroute and rejoin column • Able to detach 10 miles from LZ, precede column and conduct reconnaissance and prestrike operations for 3 minutes prior to arrival of troop transports.



IN GREATER QUANTITY



AERIAL ARTILLERY HEAVY FIRE

Primary Capability
Required:

Fast reaction and maximum fire power.

Cobra Characteristics:

Aerial artillery section of four Cobras carries over 4 tons disposable ordnance • V_{Cruise} over 150 knots • Over 1 hour endurance on station 50 nautical miles from base.



RECONNAISSANCE AND LIGHT FIRE

Primary Capability
Required:

Long endurance plus variety of ordnance.

Cobra Characteristics:

Mixed ordnance load: 1525 pounds of 7.62mm, 40mm and 2.75" rockets • V_{Cruise} over 150 knots • V_{Loiter} 90 knots • 2.5 hours endurance @ 50% cruise, 50% loiter • 25 minute turnaround time (at 25 nmi. to base).

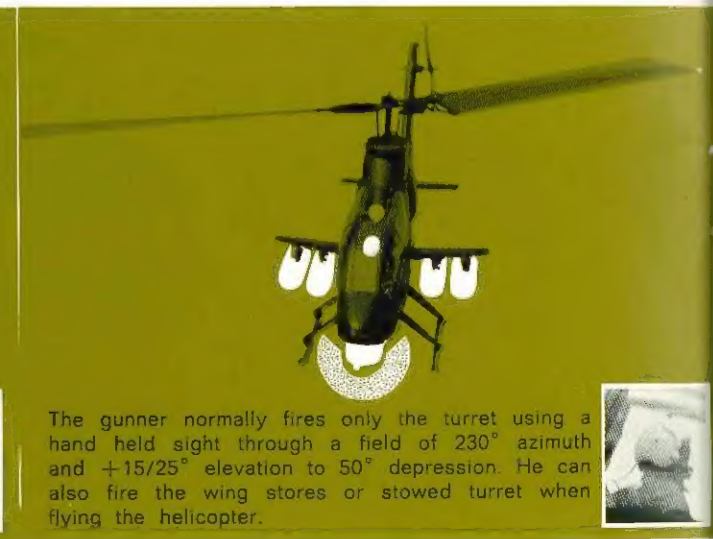


COMBAT CONFIGURATION

PILOT & GUNNER OPERATE AS A




The pilot normally fires only the wing stores but can also fire the turret in its stowed position.



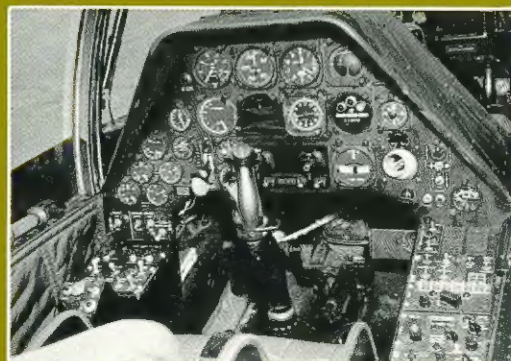
The gunner normally fires only the turret using a hand held sight through a field of 230° azimuth and +15/25° elevation to 50° depression. He can also fire the wing stores or stowed turret when flying the helicopter.

COORDINATED COMBAT TEAM

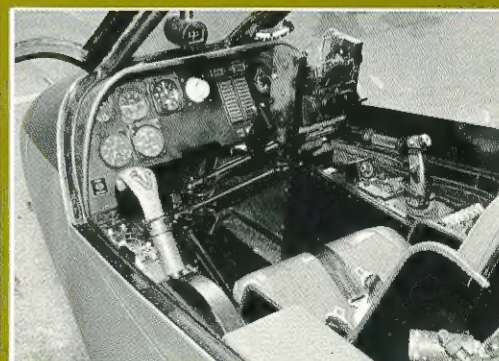
 Tandem seating, a cockpit designed to give equal and nearly unlimited visibility to both pilot and gunner and a turreted weapon with a field of fire nearly matched to crew visibility are the Cobra's key to maximum combat effectiveness. Both crew stations have flight control and fire control systems permitting flexibility in division of functions under all normal and emergency situations. Working as a coordinated team the Cobra crew can unleash a volume of lethal fire previously unknown in armed helicopters.



During attack the pilot can launch rockets while the gunner independently provides suppressive fires. Turret fire is interrupted during rocket launch.



The pilot's cockpit contains conventional flight controls, complete IFR avionics and communications plus reticle rocket sight.

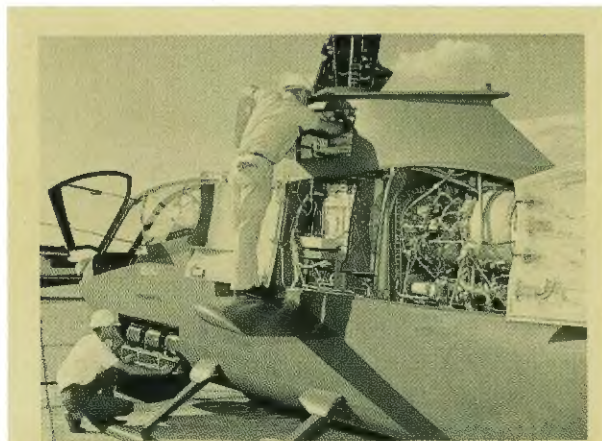


Side-arm flight controls in the gunner's cockpit leaves the center portion free for the pantograph sight mounted on the floor.

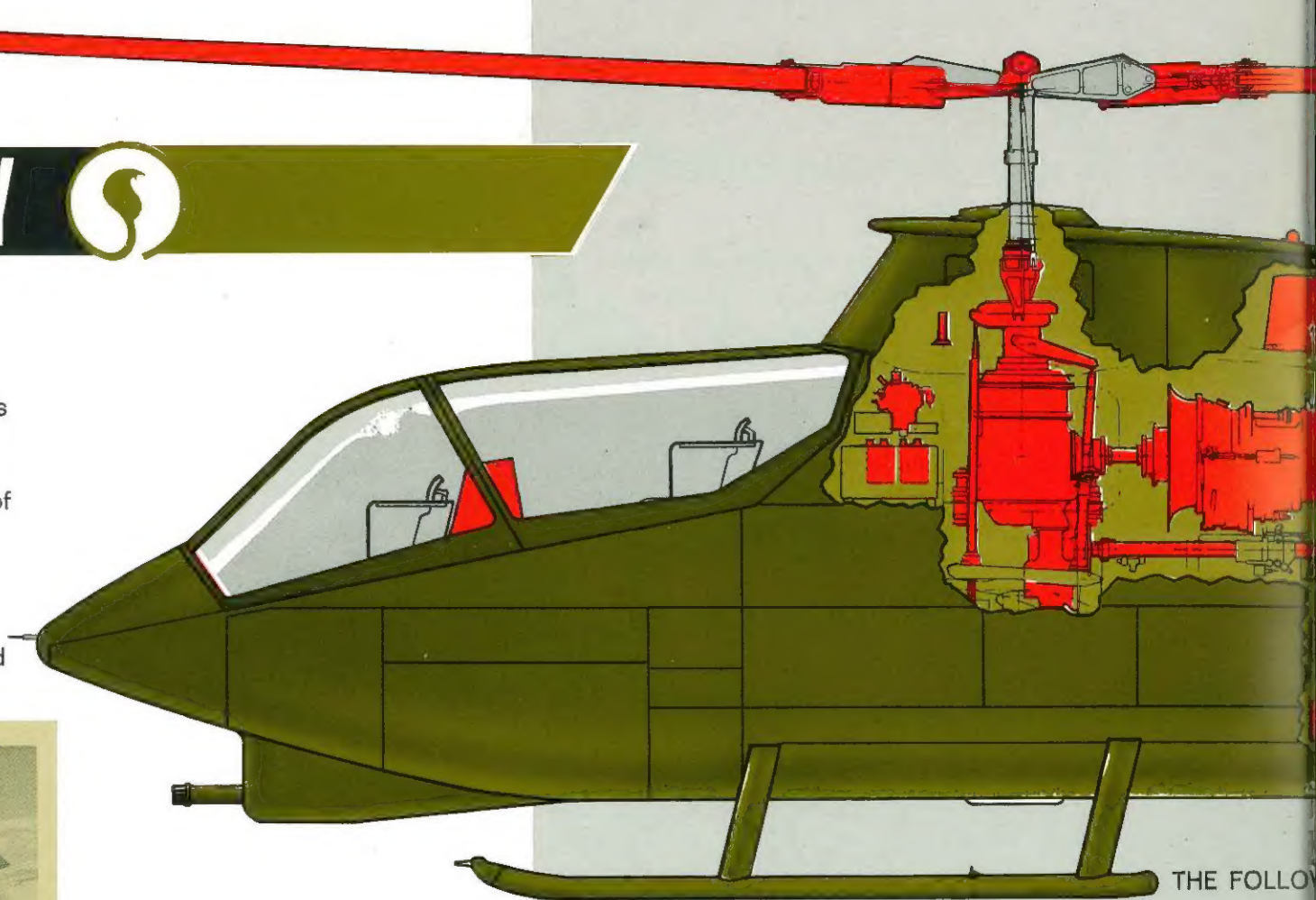
MAINTAINABILITY



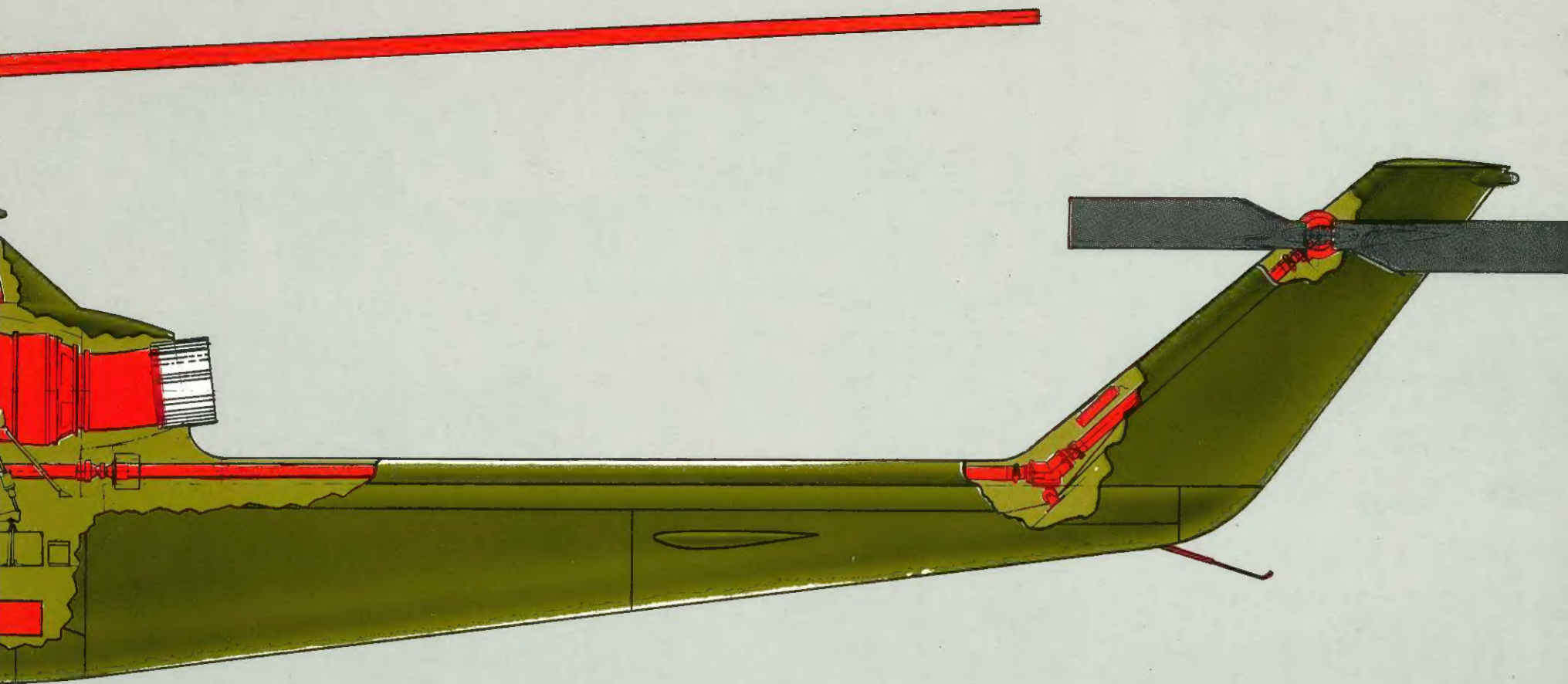
While as revolutionary in concept as the airmobile form of warfare it will enhance, the Cobra is not a totally new aircraft. Its design makes maximum use of Huey dynamic components and other maintenance significant parts. This high degree of similarity will allow immediate entry of the HueyCobra into service without formal retraining of Huey qualified pilots and mechanics.



Maintenance significant components are readily accessible.



- THE FOLLOW
- MAIN ROTOR
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 - MAST FRICTI
 - COLLETT
 - TRANSMISSI
 - LYCOMING T
 - ENGINE



ING MAINTENANCE SIGNIFICANT UH-1 PARTS HAVE BEEN INCORPORATED IN THE HUEYCOBRA

- | | | | |
|--------|---------------------------|-----------------------------|-------------------------------|
| BLADES | ● INPUT DRIVE SHAFT | ● TAIL ROTOR QUILL ASSY. | ● HYDRAULIC PUMP |
| UB | ● TAIL ROTOR DRIVE SHAFT | ● TAIL ROTOR PITCH LINK | ● BOOST CYLINDER |
| N | ● TAIL ROTOR HANGER ASSY. | ● HYDRAULIC RESERVOIR | ● TAIL SKID INSTL. |
| J | ● 42° GEAR BOX | ● HYDRAULIC CONTROL MODULES | ● STARTER-GENERATOR |
| -L-13 | ● 90° GEAR BOX | | ● GFAE INSTRUMENTS & AVIONICS |



FIREPOWER +



- 38 — 2.75" Rockets
- 2 — XM-18 Minigun Pods
- 276 — 40mm grenades
- 7000 rds — 7.62mm Ammunition

CARRIES OVER A



Four wing stores stations and an integral chin turret developed by the Emerson Electric Company provide a high degree of armament versatility for the HueyCobra. Any of the combinations of weapons or other external stores shown can be quickly installed to match the payload to the mission.



- 76 — 2.75" Rockets
- 276 — 40mm Grenades
- 4000 rds — 7.62mm Ammunition

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- 52 — 2.75" Rockets
- 276 — 40mm grenades
- 4000 rds — 7.62mm Ammunition



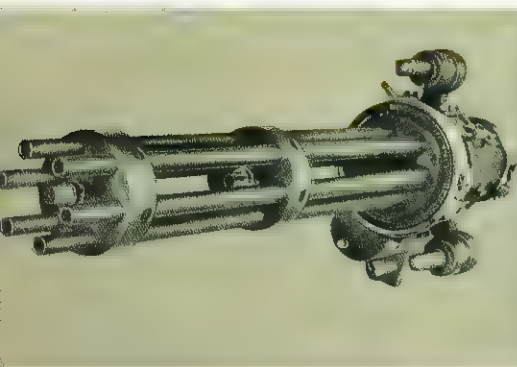
- 38 — 2.75" Rockets
- 576 — 40mm grenades
- 4000 rds — 7.62mm Ammunition

FOUR LIVE

HARDPOINTS



TON OF MIXED ORDNANCE



XM-129 — A 40mm grenade launcher similar to the M-75 shown is used in the XM-28 chin turret and the XM-13E1 wing pod.



GAU2B/A (formerly XM-134) — A 7.62mm high-rate gun (Minnigun) is used in the XM-28 chin turret and the XM-18 wing pod.

A sliding pallet in the ammunition bay permits re-arming of turreted weapons in less than five minutes.

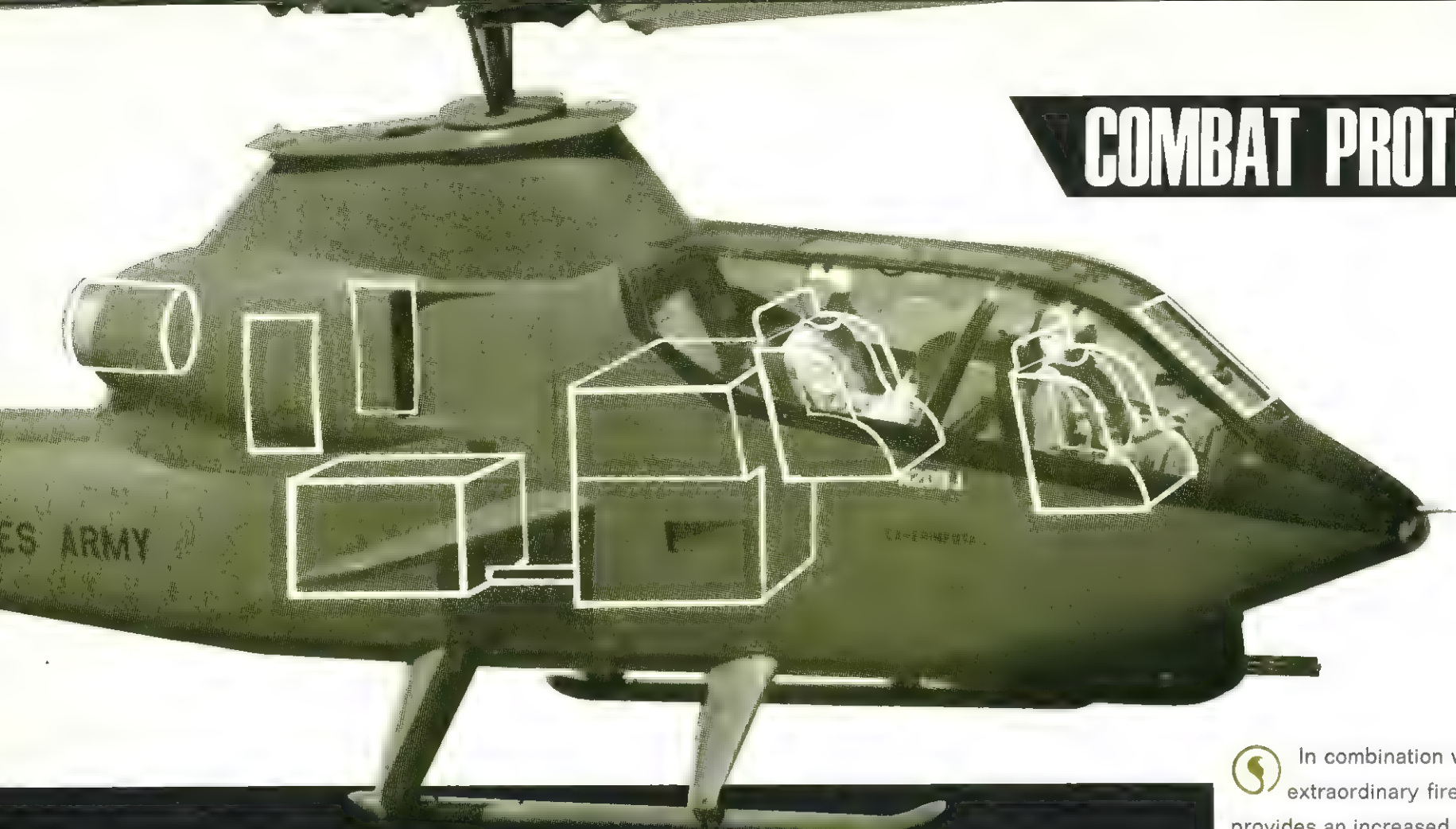
XM-28 CHIN TURRET ⁽¹⁾ 4000 RDS 7.62 mm AND 276 RDS 40mm GAU2B/A MINIGUN & XM-129 LAUNCHER					
XM-157 ROCKET LAUNCHER 7 — 2.75 IN. FFAR					
XM-159 ROCKET LAUNCHER 19 — 2.75 IN. FFAR					
XM-13E1 40mm GUN POD ⁽²⁾ 150-40mm GRENADES XM-129 LAUNCHER					
XM-18 MINIGUN POD ⁽²⁾ 1500 RDS-7.62mm GAU2B/A MINIGUN					
XM-3 MINE DISPENSER ⁽³⁾					
E39R1 SMOKE TANK ⁽³⁾ 135 LB OF FS SMOKE					
AUXILIARY FUEL TANK ⁽³⁾ 60 OR 100 GALLON					

(1) TAT 102 TURRET MOUNTING "MINIGUN" ONLY WILL BE INSTALLED PENDING FINAL DEVELOPMENT OF XM-28(TAT 141)

(2) MAY BE USED WITH XM-157 OR XM-159 ROCKET LAUNCHERS

(3) FULL PROVISIONS NOT YET PROVIDED BUT MAY BE ADDED

COMBAT PROTECTION



- Engine protection — compressor section and fuel control — boron carbide

- Hydraulic boost. system — protection through redundant design

- Fuel system — self sealing tanks

- Crew seats — built of dual-hardness steel with retractable boron carbide side panels

- Forward crew protection — bulletproof plexiglas windshield

- Vital fluid lines — coated with Vitthane to prevent leakage

- Shrouded tail pipe — cooling air mixes with exhaust to reduce IR signature

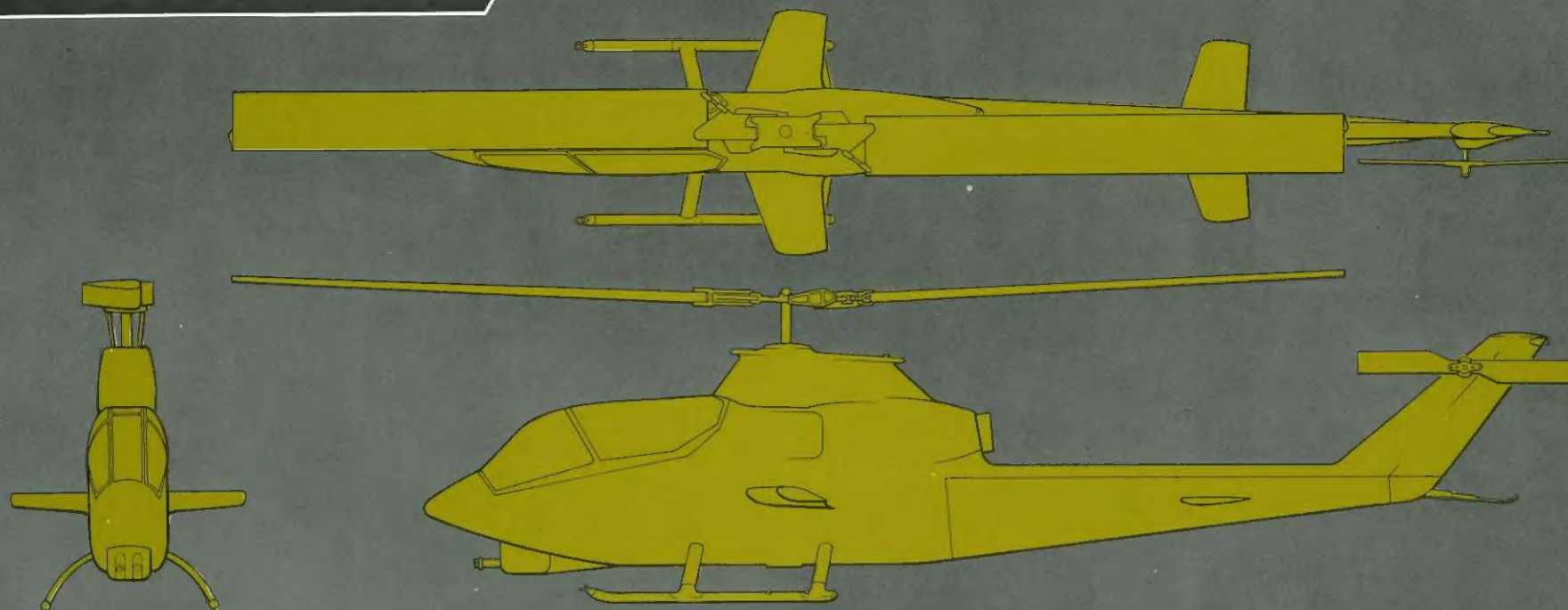
- Crew vests

- Emergency oil bypass system

Ⓢ In combination with its extraordinary firepower the Cobra provides an increased degree of passive defense. Based on careful analysis of combat damage data, two hundred-ninety pounds of advanced armor materials have been integrated with the airframe structure to protect crew and vital components. One of the greatest assets to the Cobra's combat protection will be its substantial speed and maneuverability performance increase over Huey's currently engaged in Viet Nam.



SPECIFICATIONS



Dimensions

Height 10'2.3" Wing Span 10'11.6"
Width 36"
Length 44'5.2"
Rotor Diameter 44'
Tread Width 7'0"

Weights

Empty Weight 5288 lbs. *
Useful Load 4212
Gross Weight 9500 lbs.

*Includes armor, chin turret and sighting system

Fuel Capacity

246 gallons

Performance

V_{Dive} = 190 knots
 V_{Cruise} = Up to 170 knots

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ALTERNATE MISSION POTENTIAL



FORWARD AIR CONTROL

Outstanding characteristics of the HueyCobra combine to provide an ideal vehicle for the forward air controller:

- Excellent visibility for crew — unmatched in any other aircraft.
- Speed capability — 0 to 190 knots.
- Remote area landing capability — permits crew to discuss tactical situations with ground combat commanders.
- Flexible ordnance load — turret for defensive fire plus explosive or marking rockets.
- Compatibility with heliborne air mobile assault aircraft.
- Supportable by existing Huey logistics.

Typical Forward Air Control Mission

Mission: Provide area reconnaissance and direct air strike

Condition: 75 nautical miles to control area

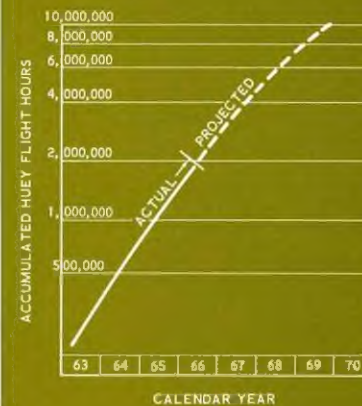
Capability: Independent FAC/Cobra with pilot/FAC team

Proceeds to area with 8000 rds. 7.62, 14 — 2.75 rockets, 120 gallons aux. fuel at 140 knots. Loiter on station 3.3 hours ($\frac{1}{2}$ time Vmax) Direct close support strikes. Return with fuel reserve.





Hueys today are operating around the world . . . at a rate never before believed possible. In 27 countries under 21 flags in both military and commercial applications the Hueys are flying over 80,000 hours per month! The cumulative time is now over 1,800,000 hours and by 1967 when the HueyCobra joins its predecessors in the field the accumulated experience may exceed 3,000,000 hours.



WORLD
STANDARD
bell
MILITARY & COMMERCIAL HELICOPTERS



BELL HELICOPTER

FORT WORTH, TEXAS • A **textron** DIVISION

5/11/66
EA